

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. Canceled.

2. (currently amended) ~~The method of claim 1, wherein step (A.) further comprises the step of: (A.)~~ A method for automated error recovery of a storage controller LIC Licensed

Internal Code ("LIC") update process, comprising the steps of:

running an automated LIC dispatcher process that retrieves ~~said~~ a state action from a state action table and executes said state action;

determining if said state action has executed with at least one error;

in response to determining that said state action has executed with at least one error,

entering an error recovery procedure;

in response to determining that said state action has not executed with at least one error,  
retrieving a next state action;

determining if said next state is a last state action;

in response to determining that said next state action is not a last state action, returning  
to said executing step; and

in response to determining that said next state action is a last state action, ending said  
storage controller LIC update process.

3. (currently amended) The method of claim ~~1~~ 2, wherein said error recovery procedure comprises the steps of:

determining if an error recovery count for a current state action is less than a maximum error recovery count;

(A-) in response to determining that an error recovery count for a current state action is less than a maximum error recovery count, incrementing said error recovery count, otherwise exiting said error recovery procedure with a failed status;

determining if an error recovery is possible;

(B-) in response to determining that an error recovery is possible, executing at least one error recovery action, otherwise exiting said error recovery procedure with said failed status; and

determining if said at least one error recovery action was successful;

(C-) in response to determining that said at least one error recovery action was successful, determining a recovery passed state action, X, and exiting said error recovery procedure with a passed status, otherwise exiting said error recovery procedure with said failed status.

4. (currently amended) The method of claim 3, ~~wherein step (B-) further comprises~~ comprising the step of: (A-) retrieving said error recovery action from a state action table.

5. Canceled.

6. (currently amended) The method of claim 1 2, ~~wherein step (B-) further comprises~~ comprising the steps of:

(A-) in response to exiting said automated error recovery process with a failed status:

a) suspending storage controller operation;

b) requesting repair of said storage controller; and

e) ~~in response to completion of said~~ after repair of said storage controller, reentering said update process at a reEntry state action obtained from a state action table.

7. (currently amended) The method of claim 6, wherein the requesting step further comprises the steps of:

(A-) automatically contacting a customer engineer; and

(B-) sending diagnostic, location, and customer information to said customer engineer.

8. (currently amended) A system for automated error recovery of a storage controller ~~LIC~~ Licensed Internal Code ("LIC") update process, said storage controller comprising a first cluster, a second cluster, a communication line between said first cluster and said second cluster, a state action table, wherein said state action table comprises a plurality of individual state actions for an automated LIC update with error recovery, an automated LIC dispatcher executing said state actions from said state action table to perform method steps comprising:

(A-) executing a state action of said storage controller LIC update process;

determining if said state action has executed with at least one error;

(B-) in response to determining that said state action has executed with at least one error, entering an error recovery procedure;

(C-) in response to determining that said state action has not executed with at least one error, retrieving a next state action;

determining if said next state is a last state action;

(D-) in response to determining that said next state action is not a last state action, returning to said executing step (A-); and

(E-) in response to determining that said next state action is a last state action, ending

said storage controller LIC update process.

9. (currently amended) The system of claim 8, wherein said error recovery procedure comprises the steps of:

determining if an error recovery count for a current state action is less than a maximum error recovery count;

~~(A.)~~ in response to determining that an error recovery count for a current state action is less than a maximum error recovery count, incrementing said error recovery count, otherwise exiting said error recovery procedure with said failed status;

determining if an error recovery is possible;

~~(B.)~~ in response to determining that an error recovery is possible, executing at least one error recovery action, otherwise exiting said error recovery procedure with a failed status; ~~and~~

determining if said at least one error recovery action was successful;

~~(C.)~~ in response to determining that said at least one error recovery action was successful, determining a recovery passed state action, ~~X,~~ and exiting said error recovery procedure with a passed status, otherwise exiting said error recovery procedure with said failed status.

10. (currently amended) The system of claim 9, ~~wherein step (B.)~~ further comprises comprising the step of: ~~(A.)~~ retrieving said error recovery action from said state action table.

11. (currently amended) The system of claim ~~8~~ 9, ~~wherein step (B.)~~ further comprises comprising the step of: ~~(A.)~~ in response to exiting said error recovery procedure with a passed status, reentering said LIC update process at an error recovery passed state action determined by said error recovery procedure.

12. (currently amended) The system of claim 8, ~~wherein step (B.)~~ further comprises comprising the steps of:

~~(A.)~~ in response to exiting said automated error recovery process with a failed status:

a) suspending storage controller operation;

b) requesting repair of said storage controller; ~~and~~

c) ~~in response to completion of said~~ after repair of said storage controller, reentering said update process at a reEntry state action obtained from said state action table.

13. (currently amended) The system of claim 12, wherein the requesting step further comprises the steps of:

~~(A.)~~ automatically contacting a customer engineer; and

~~(B.)~~ sending diagnostic, location, and customer information to said customer engineer.

14. (currently amended) An article of manufacture comprising a data storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform method steps for automated error recovery of a storage controller ~~LIC~~ ("Licensed Internal Code") update process on a storage controller, said storage controller comprising a first cluster, a second cluster, a communication line between said first cluster and said second cluster, a state action table, wherein said state action table comprises a plurality of individual state actions for an automated LIC update with error recovery and an automated LIC dispatcher executing said state actions from said state action table, said method steps comprising the steps of:

~~(A.)~~ executing a state action of said storage controller LIC update process;

determining if said state action has executed with at least one error;

~~(B.)~~ in response to determining that said state action has executed with at least one error, entering an error recovery procedure;

~~(C.)~~ in response to determining that said state action has not executed with at least one error, retrieving a next state action;

~~(D.)~~ in response to determining that said next state action is not a last state action, returning to said executing step (A.); and

~~(E.)~~ in response to determining that said next state action is a last state action ending said storage controller LIC update process.

15. (currently amended) The article of manufacture of claim 14, wherein said error recovery procedure comprises the steps of:

determining if an error recovery count for a current state action is less than a maximum error recovery count;

~~(A.)~~ in response to determining that an error recovery count for a current state action is less than a maximum error recovery count, incrementing said error recovery count, otherwise exiting said error recovery procedure with a failed status;

determining if an error recovery is possible;

~~(B.)~~ in response to determining that an error recovery is possible, executing at least one error recovery action, otherwise exiting said error recovery procedure with said failed status; and

determining if said at least one error recovery action was successful;

~~(C.)~~ in response to determining that said at least one error recovery action was successful, determining a recovery passed state action, X, and exiting said error recovery

procedure with a passed status, otherwise exiting said error recovery procedure with said failed status.

16. (currently amended) The article of manufacture of claim 15, ~~wherein step (B.)~~ further ~~comprises~~ comprising the step of: ~~(A.)~~ retrieving said error recovery action from said state action table.

17. (currently amended) The article of manufacture of claim 14, ~~wherein step (B.)~~ further ~~comprises~~ comprising the step of: ~~(A.)~~ in response to exiting said error recovery procedure with a passed status, reentering said LIC update process at an error recovery passed state action determined by said error recovery procedure.

18. (currently amended) The article of manufacture of claim 14, ~~wherein step (B.)~~ further ~~comprises~~ comprising the steps of:

- ~~(A.)~~ in response to exiting said automated error recovery process with a failed status:
  - a) suspending storage controller operation;
  - b) requesting repair of said storage controller; ~~and~~
  - e) ~~in response to completion of said~~ after repair of said storage controller, reentering said update process at a reEntry state action obtained from said state action table.

19. (currently amended) The article of manufacture of claim 18, wherein the requesting step further comprises the steps of:

- ~~(A.)~~ automatically contacting a customer engineer; and
- ~~(B.)~~ sending diagnostic, location, and customer information to said customer engineer.